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Irish Standard
I.S. EN 61857-21:2009

Electrical insulation systems -
Procedures for thermal evaluation --
Part 21: Specific requirements for
general-purpose models - Wire-wound
applications (IEC 61857-21:2009 (EQV))

I.S. EN 61857-21:2009

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English version

**Electrical insulation systems -
Procedures for thermal evaluation -
Part 21: Specific requirements for general-purpose models -
Wire-wound applications
(IEC 61857-21:2009)**

Systèmes d'isolation électrique -
Procédures d'évaluation thermique -
Partie 21: Exigences particulières
pour les modèles d'usage général -
Applications aux enroulements à fil
(CEI 61857-21:2009)

Elektrische Isoliersysteme -
Verfahren zur thermischen Bewertung -
Teil 21: Spezielle Bedingungen
für Mehrzweckmodelle -
Anwendungen bei Drahtwicklungen
(IEC 61857-21:2009)

This European Standard was approved by CENELEC on 2009-06-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

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CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: Avenue Marnix 17, B - 1000 Brussels

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Foreword

The text of document 112/120/FDIS, future edition 3 of IEC 61857-21, prepared by IEC TC 112, Evaluation and qualification of electrical insulating materials and systems, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61857-21 on 2009-06-01.

This European Standard supersedes EN 61857-21:2004.

The editorial revisions make EN 61857-21:2009 compatible with Parts 1 and 22.

The following dates were fixed:

- latest date by which the EN has to be implemented
at national level by publication of an identical
national standard or by endorsement (dop) 2010-03-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2012-06-01

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 61857-21:2009 was approved by CENELEC as a European Standard without any modification.

Annex ZA

(normative)

Normative references to international publications with their corresponding European publications

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60455	Series	Resin based reactive compounds used for electrical insulation	EN 60455	Series
IEC 60464	Series	Varnishes used for electrical insulation	EN 60464	Series
IEC 60505	- ¹⁾	Evaluation and qualification of electrical insulation systems	EN 60505	2004 ²⁾
IEC 61857-1	2008	Electrical insulation systems - Procedures for thermal evaluation - Part 1: General requirements - Low-voltage	EN 61857-1	2009

¹⁾ Undated reference.

²⁾ Valid edition at date of issue.

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**ELECTRICAL INSULATION SYSTEMS –
PROCEDURES FOR THERMAL EVALUATION –****Part 21: Specific requirements for general-purpose models –
Wire-wound applications**

FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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International Standard IEC 61857-21 has been prepared by IEC technical committee 112: Evaluation and qualification of electrical insulating materials and systems.

This third edition cancels and replaces the second edition published in 2004, and constitutes editorial revisions to make this standard compatible with Parts 1 and 22.

The text of this standard is based on the following documents:

FDIS	Report on voting
112/120/FDIS	112/126/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all the parts in the IEC 61857 series, under the general title *Electrical insulation systems – Procedures for thermal evaluation*, can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the maintenance result date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

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INTRODUCTION

A series of parts that will make up IEC 61857 is currently being developed, each of which will address a specific test object and/or application with an associated test procedure.

ELECTRICAL INSULATION SYSTEMS – PROCEDURES FOR THERMAL EVALUATION –

Part 21: Specific requirements for general-purpose models – Wire-wound applications

1 Scope

This part of IEC 61857 describes a general-purpose model (GPM) and a tall channel alternative model (GPM-TC) which can be used for the evaluation of wire-wound electrical insulation systems (EIS) where specific electrotechnical products are not available or required.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60455 (all parts), *Resin based reactive compounds used for electrical insulation*

IEC 60464: (all parts), *Varnishes used for electrical insulation*

IEC 60505, *Evaluation and qualification of electrical insulation systems*

IEC 61857-1, 2008, *Electrical insulation systems – Procedures for thermal evaluation – Part 1: General requirements – Low-voltage*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 60505 and IEC 61857-1, as well as the following definitions, apply.

3.1

earth

ground

make an electric connection between a given point in a system, an installation or in equipment and a local earth

[IEV 195-01-08]

3.2

earth (ground) insulation

electrical insulating material (EIM) between a coil and earthed metal

3.3

coil

continuous winding of insulated wire

3.4

coil-to-coil insulation

electrical insulating material (EIM) between individual coils

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